

## CLAIMS

### What is claimed:

1. A forgery or alteration prevention apparatus for inserting an information for preventing forgery or alteration of an audio data into the audio data which is stored in DVR (Digital Voice Recorder), said DVR comprises an audio data input unit, A/D converter converting an analog audio data from said audio data input unit into a digital audio data, and a data storage unit storing said digital audio data, wherein said forgery or alteration prevention apparatus receives said digital audio data from said A/D converter, and inserts said information for preventing forgery or alteration into said digital audio data before storing said digital audio data in said data storage unit.  
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2. In a system for receiving a digital audio data stored in DVR and storing said digital audio data in PC, a forgery or alteration prevention apparatus for inserting an information for preventing forgery or alteration of said digital audio data, wherein said forgery or alteration prevention apparatus is provided in said PC, and inserts said information for preventing forgery or alteration into said digital audio data before storing said digital audio data in a data storage unit in said PC.  
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3. A forgery or alteration prevention apparatus according to claim 1, wherein the insertion of said information for preventing forgery or alteration is carried out by  
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embedding watermark into said digital audio data, and

the confirmation of whether said stored digital audio data has been forged or altered is carried out by detecting said watermark.

5 4. A forgery or alteration prevention apparatus according to claim 1, wherein the insertion of said information for preventing forgery or alteration is carried out by encrypting said digital audio data by predetermined encryption key.

10 5. A forgery or alteration prevention apparatus according to claim 1, wherein the insertion of said information for preventing forgery or alteration is carried out by inserting hash value of said digital audio data into said digital audio data, and the confirmation of whether said stored digital audio data has been forged or altered is carried out by confirming whether the hash value newly obtained by applying said stored digital audio data to a hash function used for obtaining said 15 hash value is identical to the hash value inserted in said stored digital audio data.

20 6. A forgery or alteration prevention apparatus according to claim 1, wherein said apparatus is implemented within the digital voice recorder in the form of general PCB board, DSP chip board, FPGA (Flexible Program Gate Array) board, ASIC (Application Specific Integrated Circuit) board, or software programs.

7. A forgery or alteration prevention apparatus according to claim 3, wherein

said watermark is one of robust watermark or semi-fragile watermark, and  
the embedment of said watermark is carried out before the compression of said  
digital audio data.

5 8. A forgery or alteration prevention apparatus according to claim 3, wherein  
said watermark is fragile watermark; and  
the embedment of said watermark is carried out after the compression of said  
digital audio data.

10 9. A method for inserting an information for preventing forgery or alteration of  
an audio data stored in DVR, said DVR comprises an audio data input unit, A/D  
converter converting an analog audio data from said audio data input unit into a  
digital audio data, and a data storage unit storing said digital audio data, the  
method comprising:

15 (a) receiving said digital audio data from A/D converter;  
(b) inserting said information for preventing forgery or alteration into said  
digital audio data in real time; and  
(c) storing said digital audio data into which said information for preventing  
forgery or alteration is inserted in said data storage unit.

20 10. In a system for receiving a digital audio data stored in DVR and storing said  
digital audio data in PC, a method for inserting an information for preventing

forgery or alteration into said received digital audio data in said PC, the method comprising:

- (a) receiving said digital audio data stored in said DVR;
- (b) inserting said information for preventing forgery or alteration into said digital audio data in real time; and
- (c) storing said digital audio data into which said information for preventing forgery or alteration is inserted in said PC.

11. A method according to claim 9, wherein said step (b) is carried out by  
10 embedding watermark into said digital audio data, and  
the confirmation of whether said stored digital audio data has been forged or  
altered is carried out by detecting said watermark.

12. A method according to claim 9, wherein said step (b) is carried out by  
15 encrypting said digital audio data with a predetermined encryption key.

13. A method according to claim 9, wherein said step (b) is carried out by inserting  
hash value of said digital audio data into said digital audio data, and  
the confirmation of whether said stored digital audio data has been forged or  
20 altered is carried out by confirming whether hash value inserted in said digital  
audio data is identical to the newly obtained hash value from applying said stored  
digital audio data to the hash function used for obtaining said hash value.